

REMARKS

Claims 1-26 are pending in the present application. Claims 1, 2, 7, 8 and 14-16 have been amended and claims 18-26 have been added. Claims 1, 7, 16 and 20 are independent. The specification has been amended. Reconsideration of this application, as amended, is respectfully requested.

Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1, 3, 5, 7, 9 and 11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Haghighi et al., USPN 6,357,409. Claims 2, 4, 6, 8, 10, 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Haghighi et al. in view of Brinn, USPN 6,202,499. Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Haghighi et al. and Brinn as applied to claim 8 above, and further in view of Ken, JP 4-148008. These rejections are respectfully traversed.

The present invention is directed to an engine starting apparatus. Independent claims 1 and 7 recite a combination of elements including "actuating means (actuator in claim 7)" and "decompression means (device in claim 7) for depressing an exhaust valve of the engine via a rocker arm and a lifter of the engine to open the exhaust valve, in correspondence with actuation of said actuating means (actuator in claim 7), the lifter being located between the rocker arm and the exhaust valve and slidably engaged in a lifter housing."

With the structure according to the present invention, an engine starting apparatus can be obtained which allows for downsizing and weight reduction of a starter motor and a starting power transmission, even in a multi-cylinder engine. Applicants respectfully submit that the references relied on by the Examiner fail to teach or suggest the presently claimed invention.

In particular, Haghgoie et al. is directed to a method and system for starting a cam less internal combustion engine. Referring to FIG. 1 of Haghgoie et al., this reference discloses actuators 202 and 204 that operate valves 52 and 54, respectively. The actuators 202 and 204 are controlled by a power stage 100 to actuate the valves 52 and 54 to be in a predetermined valve initial position, wherein the valves are fully or partially opened. Applicants respectfully submit that the Haghgoie et al. reference is insufficient to anticipate independent claims 1 and 7 for several reasons. First, independent claims 1 and 7 require an actuating means (actuator) and decompression means (device) to open the exhaust valve. In Haghgoie et al.; however, there is only a single element that opens the exhaust valve. Specifically, haghgoie et al. discloses actuators 202 and 204 for opening the exhaust valves 52 and 54, respectively. If the actuators 202 and 204 are considered to disclose the actuating means (actuator) of the presently claimed invention, then the Haghgoie et al. reference fails to disclose decompression means (device) as recited in the independent claims of the present invention. Accordingly, the Haghgoie et al. reference fails to anticipate the independent claims of the present invention for at least this reason.

Second, Haghgooie et al. fails to disclose the actuating means (actuator) and decompression means (device) that depresses the exhaust valve of the engine "via a rocker arm and a lifter of the engine" to open the exhaust valve as recited in independent claims 7 and 8 of the present invention. As can be clearly understood from the Haghgooie et al. reference, this reference is directed to a "cam less" internal combustion engine. In view of this, there is no rocker arm through which the valves are operated. Therefore, the Haghgooie et al. reference fails to anticipate independent claims 1 and 7 for this additional reason.

To the extent the Examiner believes it would be obvious to modify the Haghgooie et al. reference to include the exhaust valve of the engine being operated via a rocker arm, Applicants respectfully submit that such modification would be contrary to the teachings of Haghgooie et al. Specifically, the main object of the Haghgooie et al. reference is to eliminate the cam shaft and therefore the rocker arm of the engine. One having ordinary skill in the art would not be motivated to modify the Haghgooie et al. reference to include a rocker arm, since the main object of the Haghgooie et al. reference is to eliminate the rocker arm.

With regard to dependent claims 2-6 and 8-13, Applicants respectfully submit that these claims are allowable due to their respective dependence upon allowable independent claims 1 and 7, as well as due to the additional recitations in these claims.

With regard to the Brinn reference relied on by the Examiner, this reference has only been relied on by the Examiner for a teaching of a starting power transmission. This reference is silent with regard to an actuating means (actuator) or a decompression means (device) as recited in independent claims 1 and 7 of the present invention. Accordingly, the Brinn reference fails to make up for the deficiencies of Haghgooie et al.

With regard to the Examiner's reliance on the Ken reference, although this reference does disclose a rocker arm, for the reasons mentioned above, Applicants respectfully submit that one having ordinary skill in the art would not be motivated to modify the Haghgooie et al. reference in the manner proposed by the Examiner. Specifically, the modification proposed by the Examiner would be contrary to the teachings of Haghgooie et al., since the main object of the Haghgooie et al. reference is to eliminate the cam shaft and rocker arm of the engine.

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-13 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claims

Additional claims 18-26 have been added for the Examiner's consideration. Applicants respectfully submit that dependent claims 18 and 19 are allowable due to their

dependence upon allowable independent claim 7. In addition, independent claim 20 and dependent claims 21-26 are allowable since the Haghgooie et al. reference fails to disclose a decompression cam as recited in independent claim 20.

Favorable consideration and allowance of additional claims 18-26 are respectfully requested.

Allowable Subject Matter

Claims 16 and 17 have been indicated by the Examiner as being objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants greatly appreciate the indication of allowable subject matter by the Examiner.

As the Examiner will note, claim 16 has been rewritten in independent form to include the limitations of original independent claims 7 and 8. In view of this, claims 16 and 17 should be in condition for allowance.

It should be noted that claim 14 has not been rejected by the Examiner in view of the prior art. Since the Examiner rejected claim 15 in view of the Ken reference and since the Office Action Summary indicates that claim 14 has been rejected, it is believed that the Examiner does not believe claim 14 is directed to allowable subject matter. However, clarification is requested. In any event, for the reasons mentioned above, Applicants

submit that claim 14 should be in condition for allowance due to its dependence upon allowable independent claim 7, as well as due to the additional recitations in this claim. Further to this, Applicants submit that claim 14 would not be obvious over the Haghgoie et al. reference since this reference is directed to a cam less internal combustion engine.

To the extent the Examiner believes claim 14 is rejectable in view of the prior art, it is requested that the Examiner provide an Office Action which rejects claim 14, so that Applicants can respond to the Examiner's rejection. Applicants submit that it would be inappropriate to make the next Office Action final, since claim 14 has not been rejected previously.

CONCLUSION

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but merely to show the state-of- the-art, no further comments are deemed necessary with respect thereto.

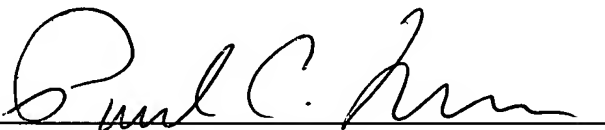
All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Paul C. Lewis, #43,368

PCL/cl
0505-0955P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000